US007004786B1

(12) **United States Patent**
Bloom et al.

(10) **Patent No.: US 7,004,786 B1**
(45) **Date of Patent: Feb. 28, 2006**

(54) **CORD MANAGEMENT DEVICE**

(75) Inventors: **Sam A. Bloom**, Dallas, TX (US); **Christian O. Gerard**, Austin, TX (US); **Philip Leveridge**, Austin, TX (US)

(73) Assignee: **Bloomin Partners, Inc.**, Dallas, TX (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **11/009,811**

(22) Filed: **Dec. 10, 2004**

Related U.S. Application Data

(63) Continuation of application No. 10/937,463, filed on Sep. 8, 2004.

(51) **Int. Cl.**
H01R 13/72 (2006.01)

(52) **U.S. Cl.** **439/501**; 439/535; 439/488; 439/490; 439/142

(58) **Field of Classification Search** 439/501, 439/652, 535, 488–491, 142; 174/53, 135
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,206,957 A * 6/1980 Ludwig et al. 439/142
6,017,228 A * 1/2000 Verbeek et al. 439/142
6,220,897 B1 * 4/2001 Maxwell 439/652
6,352,447 B1 * 3/2002 Ruth 439/540.1
6,415,672 B1 * 7/2002 Hamilton et al. 73/866.3
6,619,980 B1 * 9/2003 Hsiao 439/501
6,658,773 B1 * 12/2003 Rohne et al. 40/542
6,722,917 B1 * 4/2004 Huang 439/501
6,793,523 B1 * 9/2004 Wei 439/501
6,805,581 B1 * 10/2004 Love 439/535
6,811,281 B1 * 11/2004 Hsiao 362/226
6,844,494 B1 * 1/2005 Nevins 174/53
6,875,051 B1 * 4/2005 Pizak 439/535

* cited by examiner

Primary Examiner—Gary Paumen

(74) *Attorney, Agent, or Firm*—Baker Botts L.L.P.

(57) **ABSTRACT**

A device for providing electricity includes a frame, an outlet, a plug, and a cavity cover. The outlet is capable of providing electricity to devices plugged into the outlet. The plug is operable to provide electricity to the outlet from an external power source. The frame forms a cavity that is capable of storing a cord. Additionally, the cavity cover is capable of allowing access to the cavity through a cavity opening when a force is applied to the cavity cover and covering the cavity opening when the force is removed from the cavity cover.

41 Claims, 7 Drawing Sheets

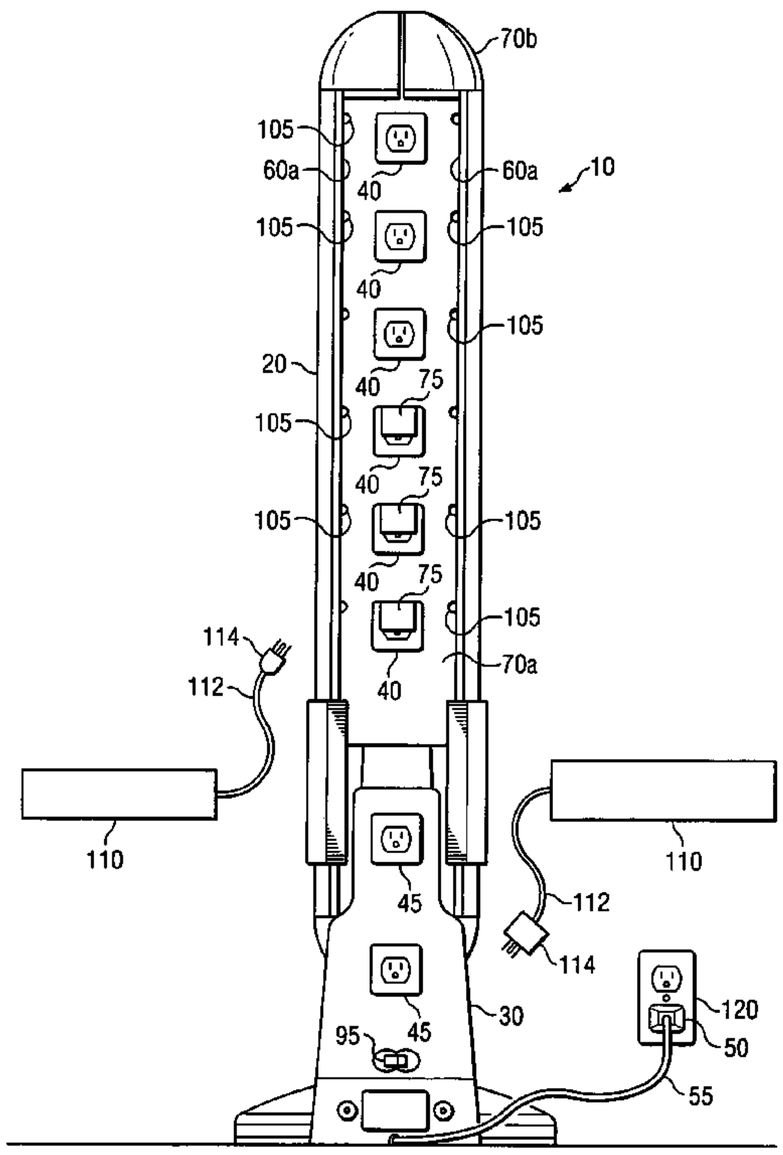
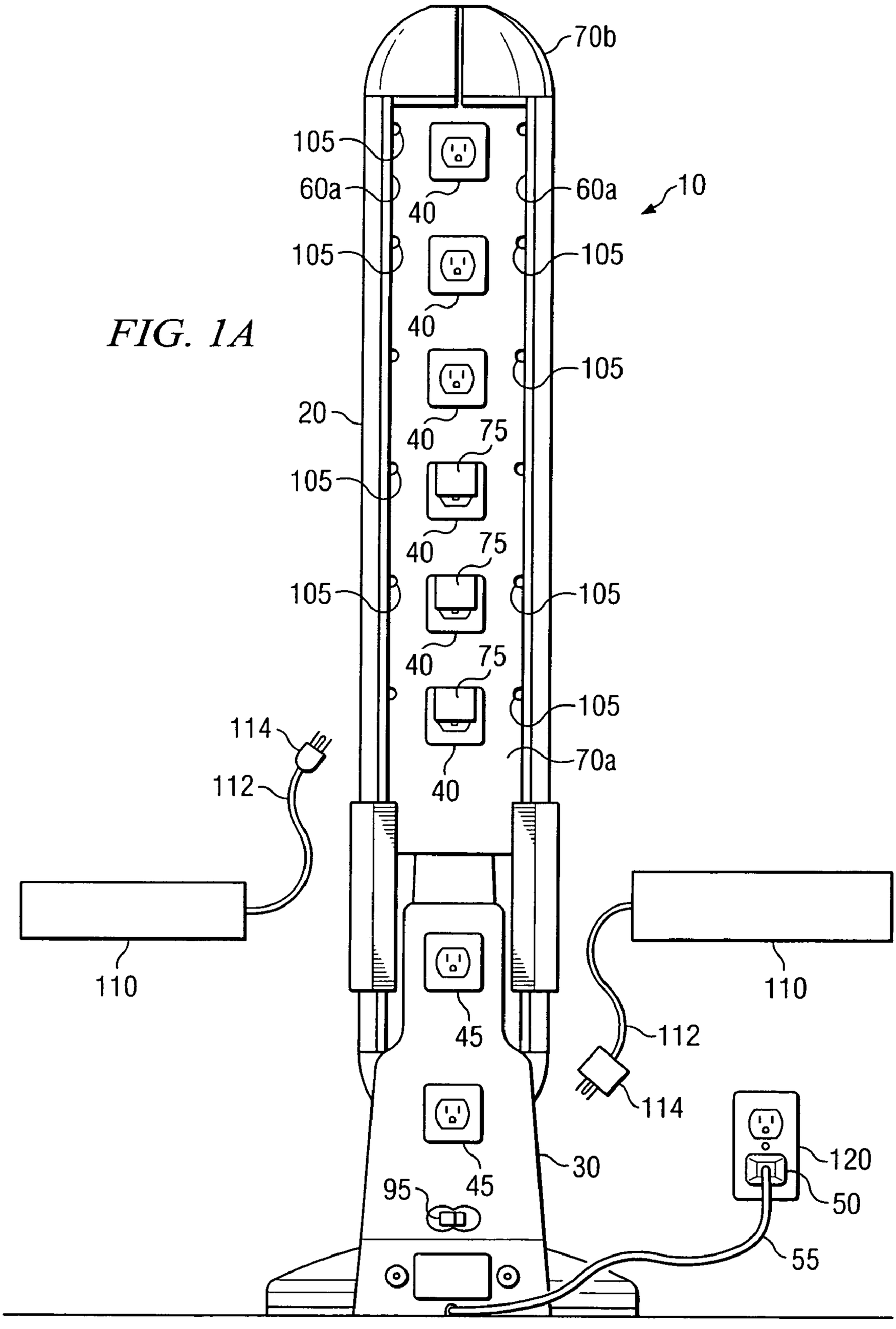


FIG. 1A


70b
105
60a
40
60a
10
105
105
40
105
20
40
75
105
40
75
105
105
40
75
105
114
70a
112
40
110
110
45
112
114
45
30
120
95
50
55

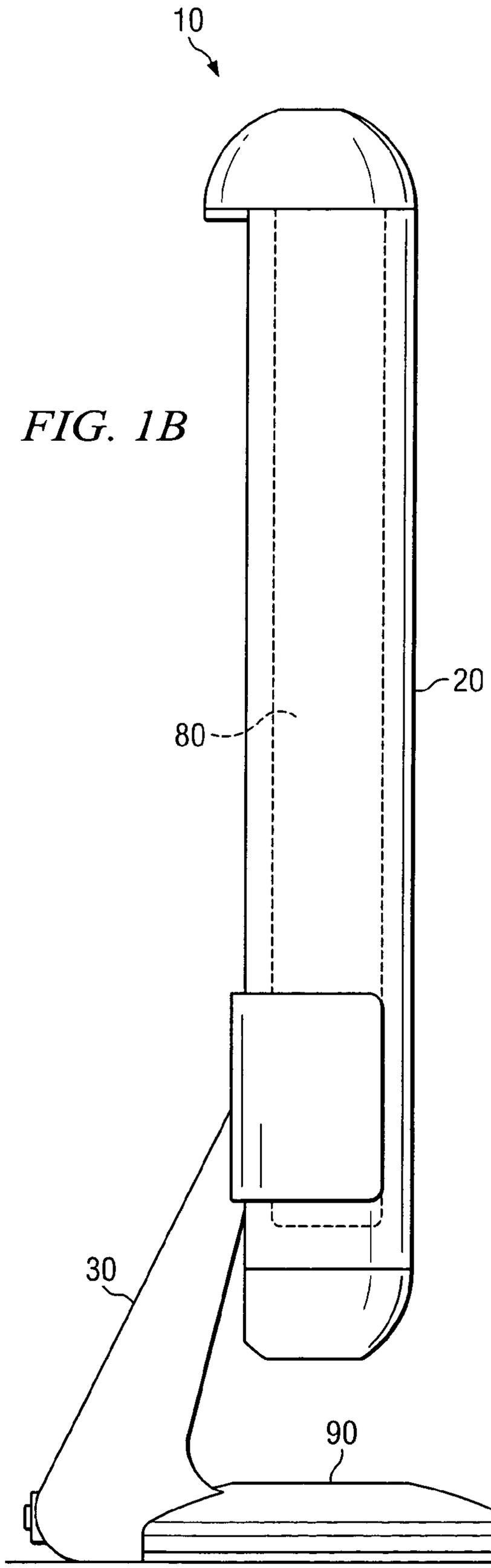


FIG. 1B

FIG. 2A

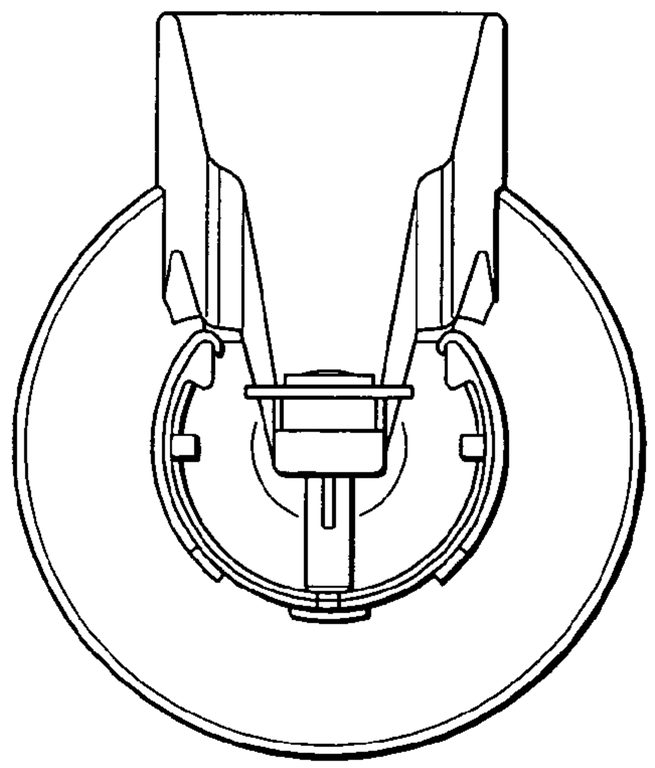
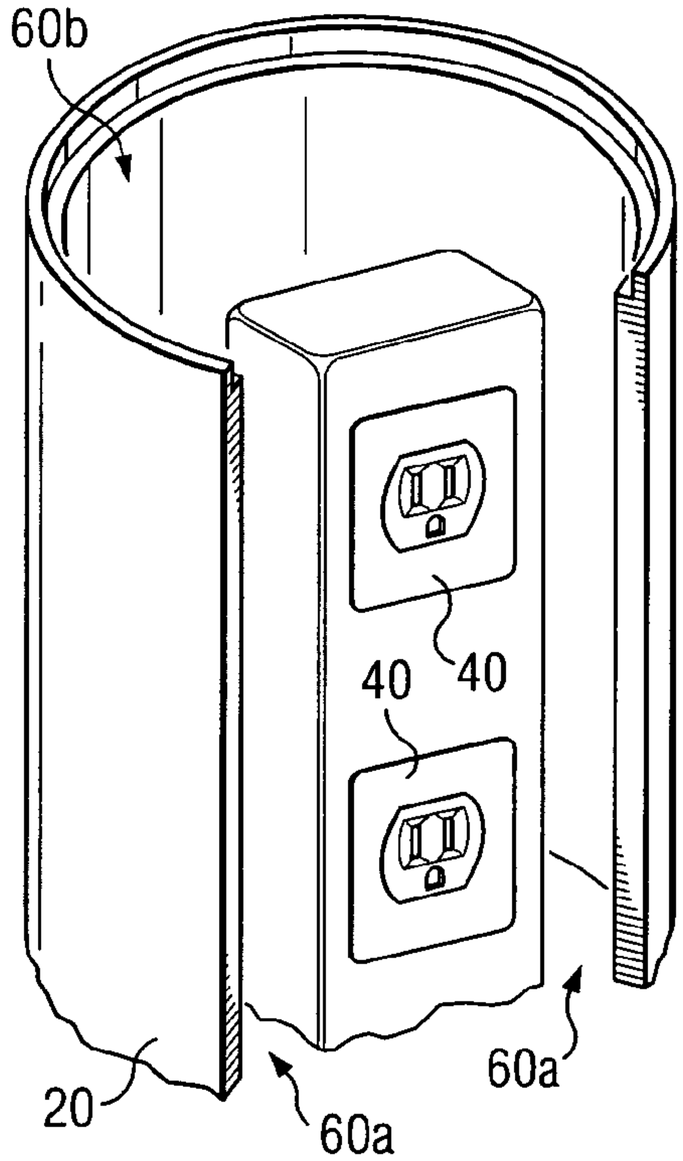


FIG. 2B



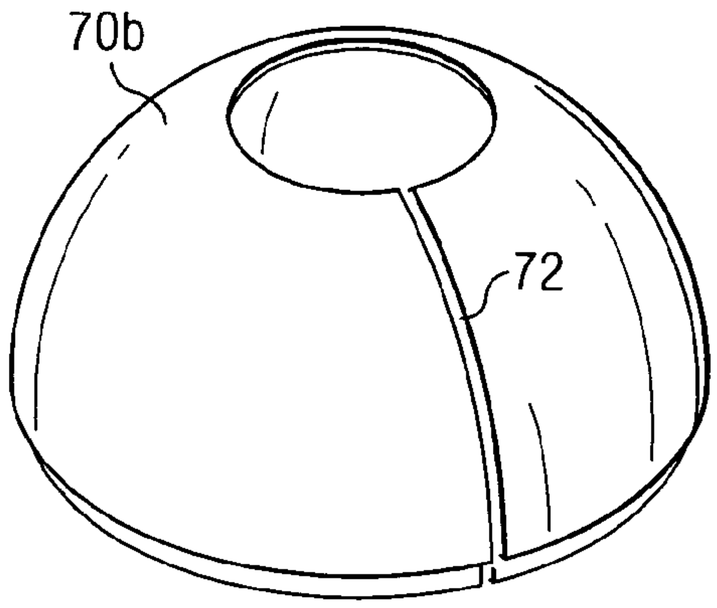


FIG. 2C

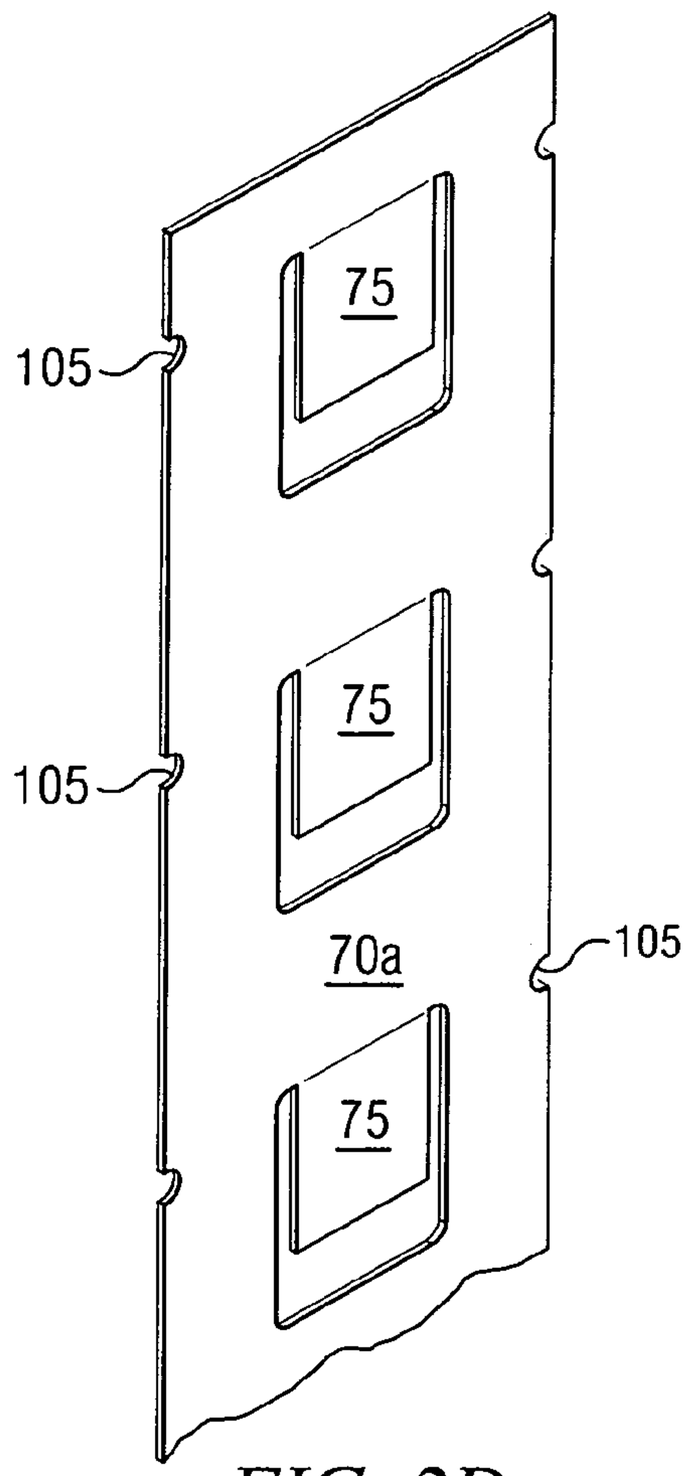


FIG. 2D

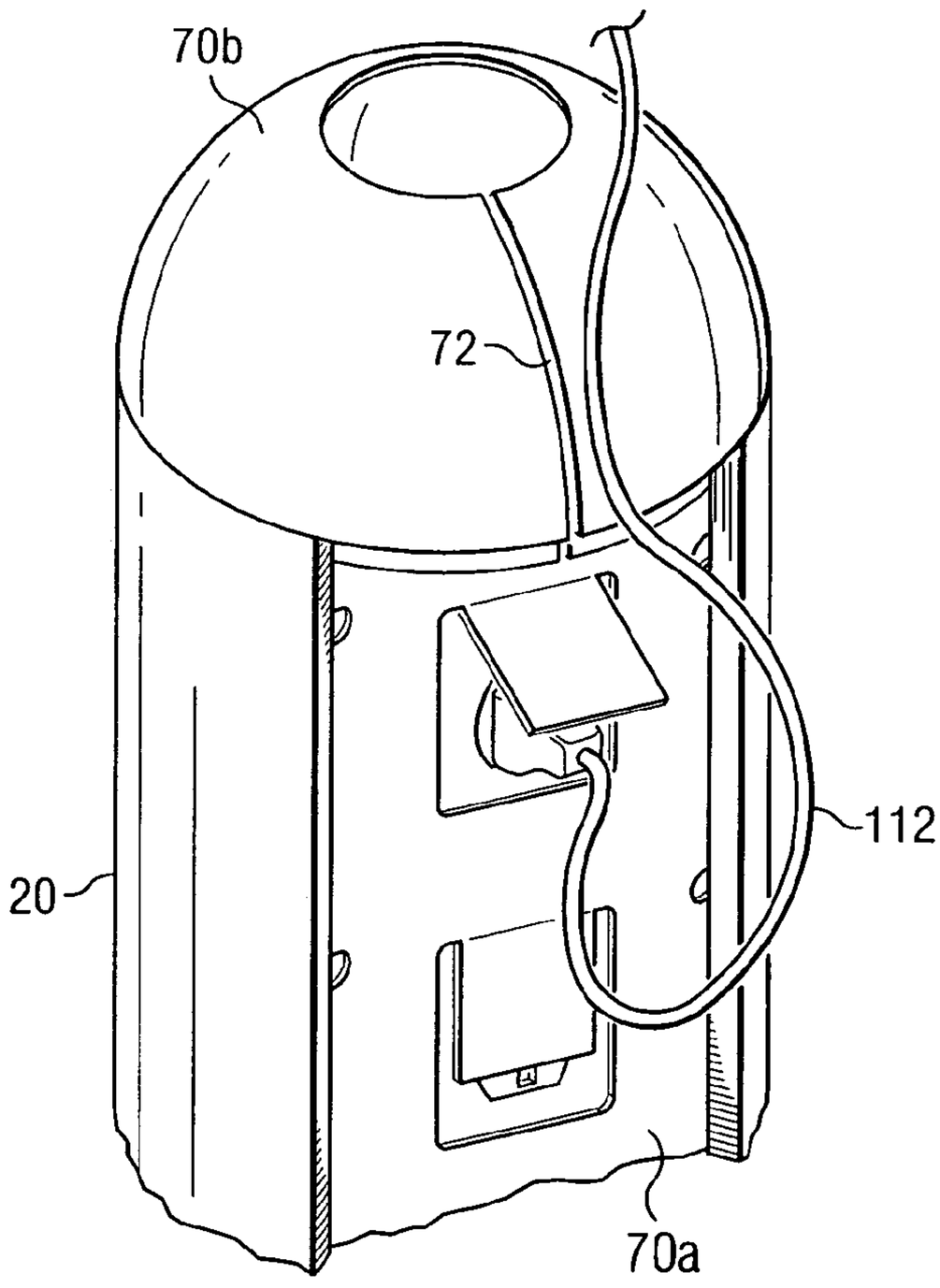


FIG. 3A

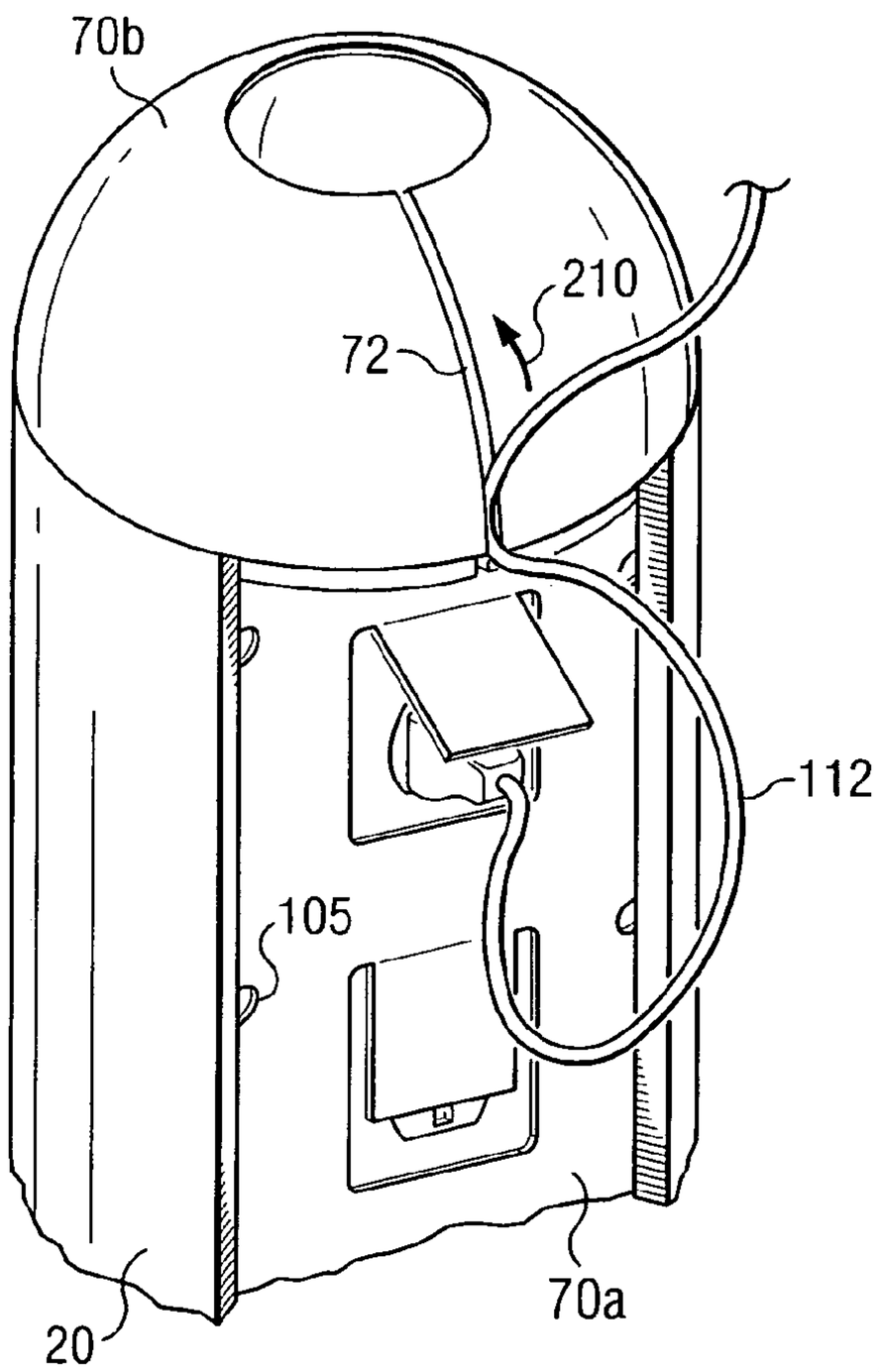


FIG. 3B

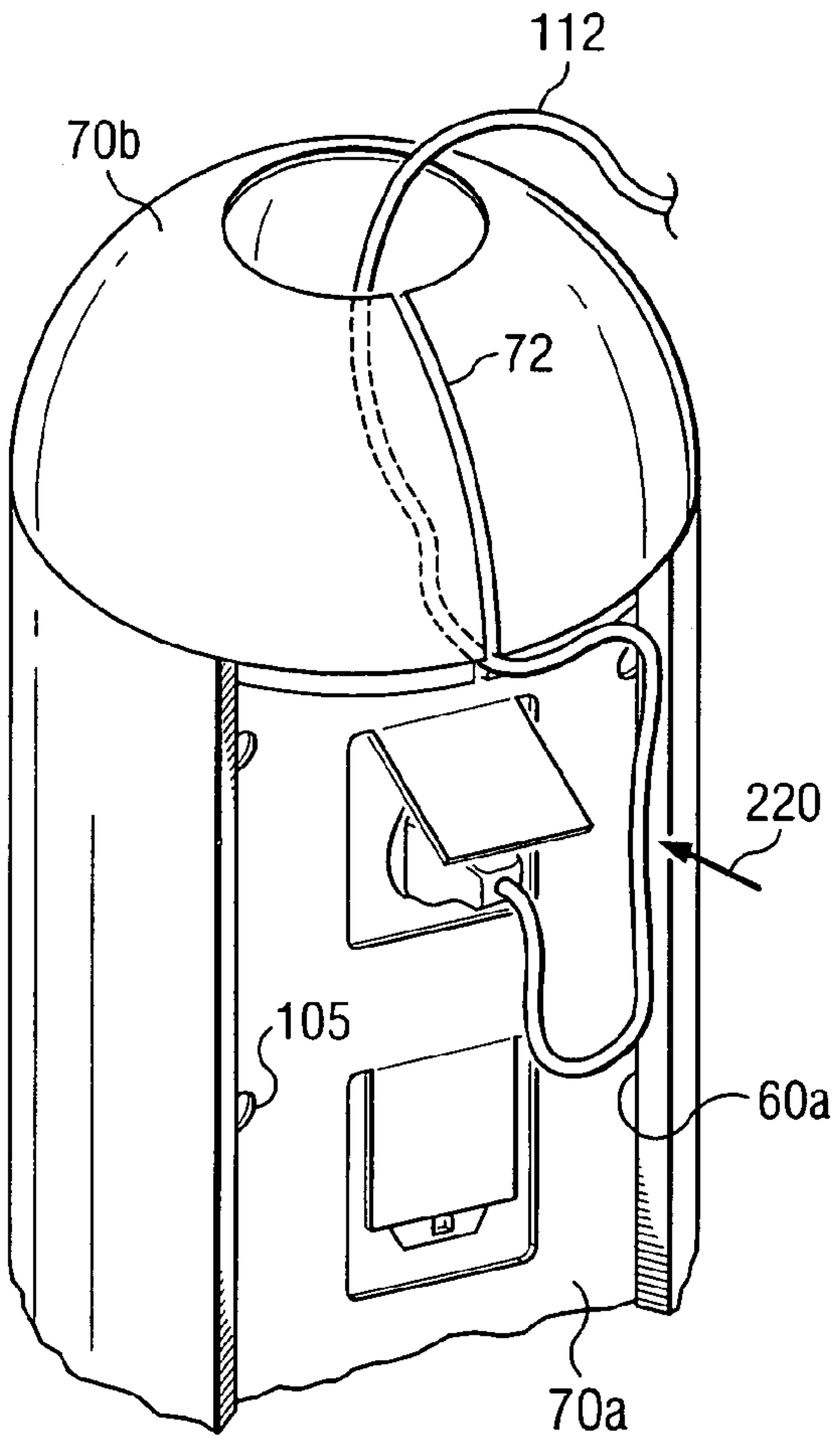


FIG. 3C

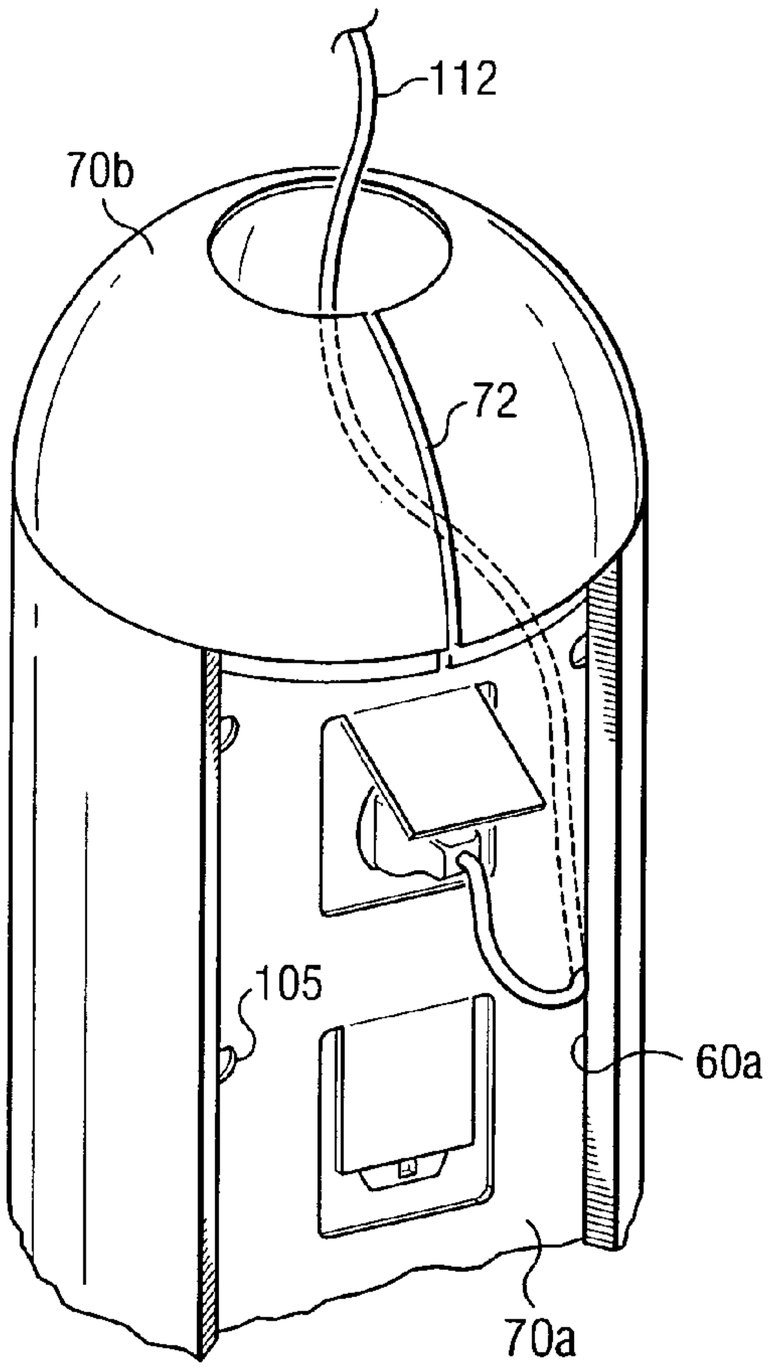


FIG. 3D

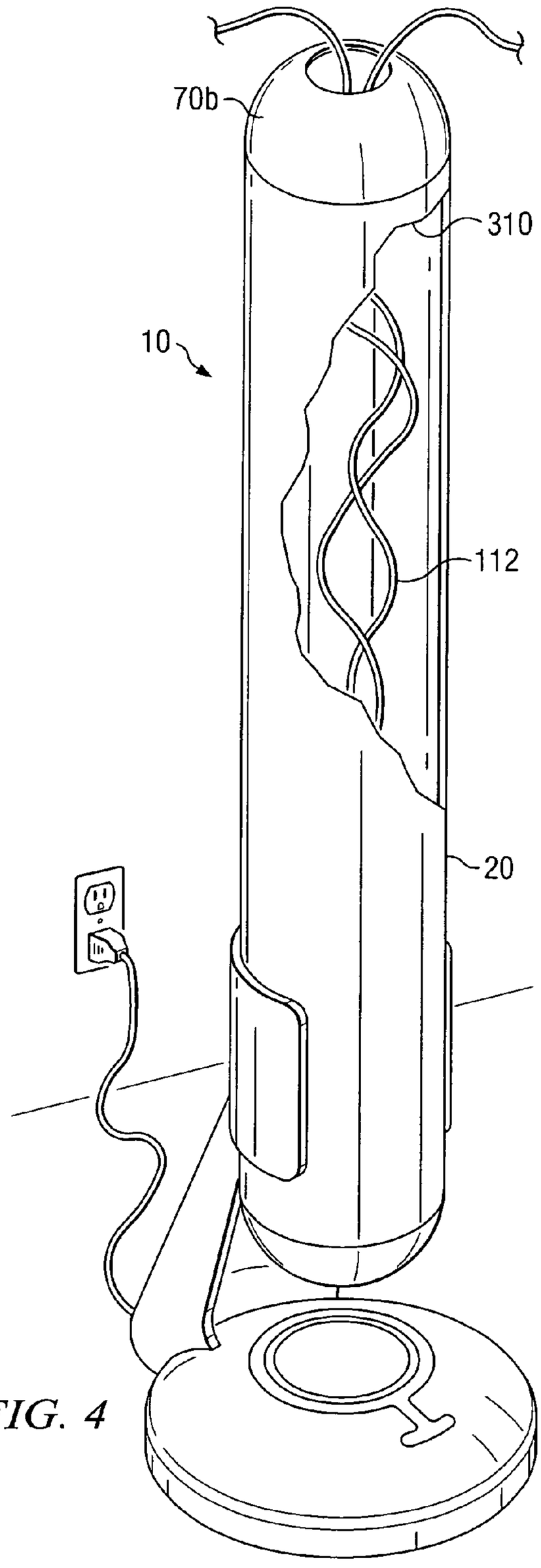


FIG. 4

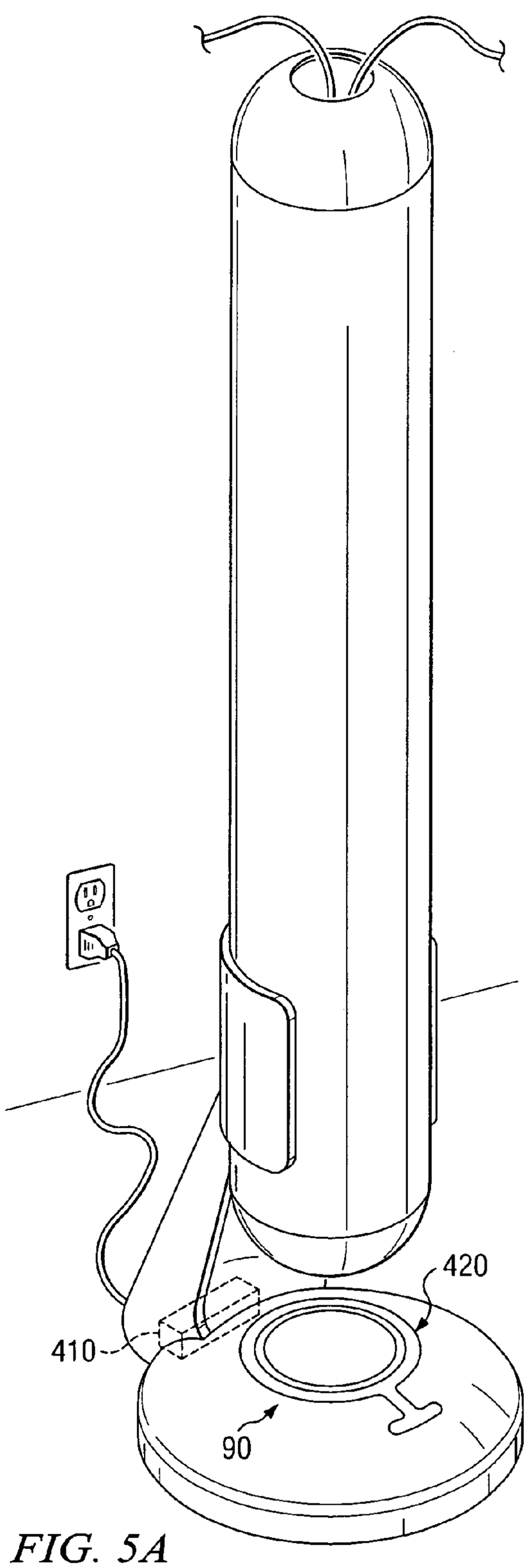


FIG. 5A

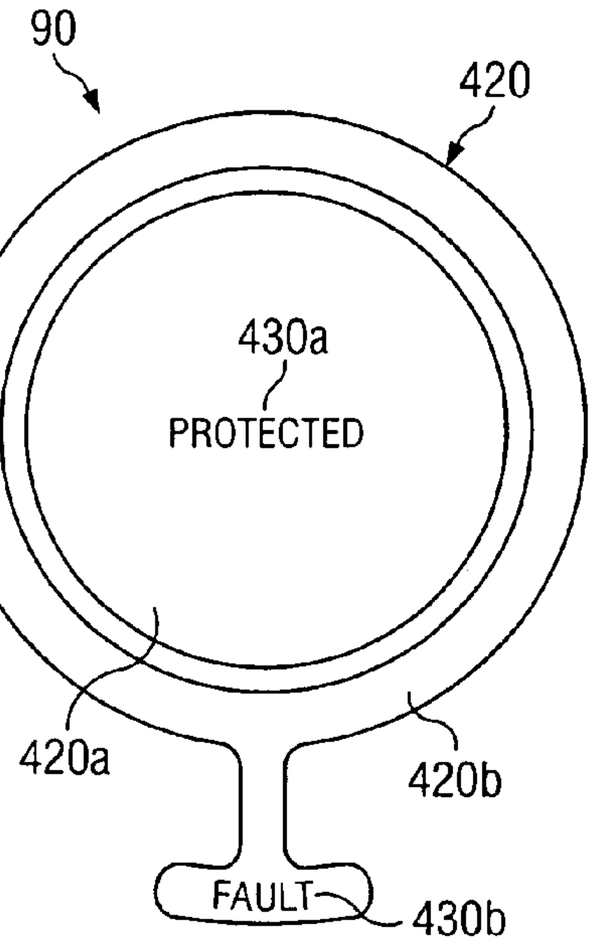


FIG. 5B

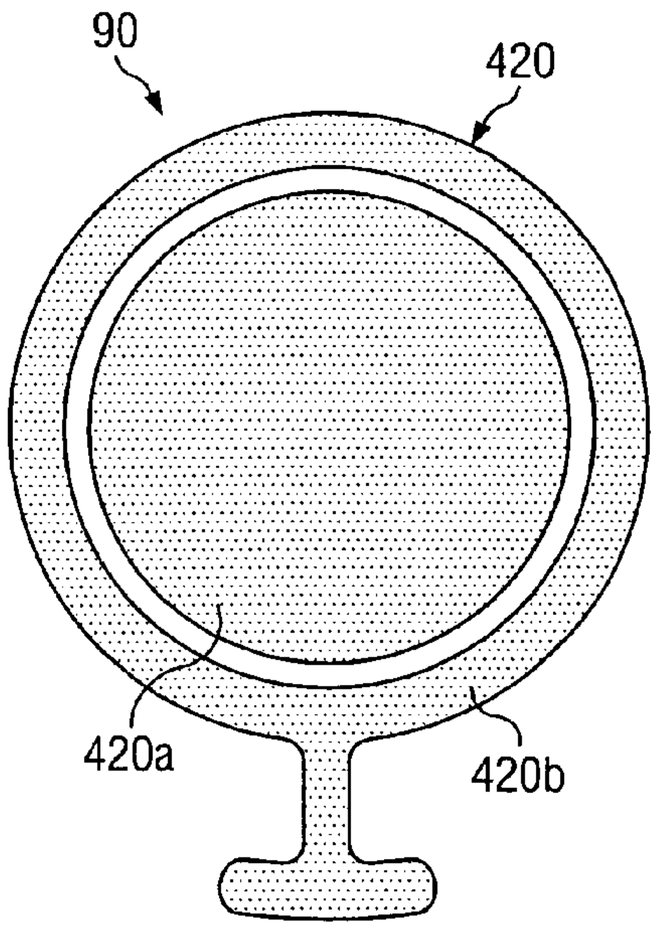


FIG. 5C

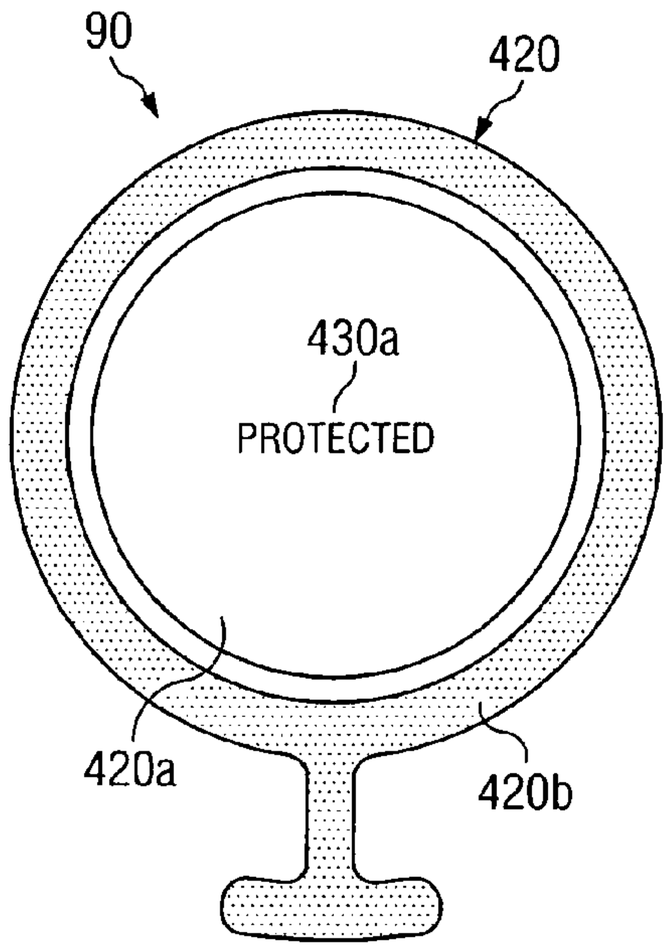


FIG. 5D

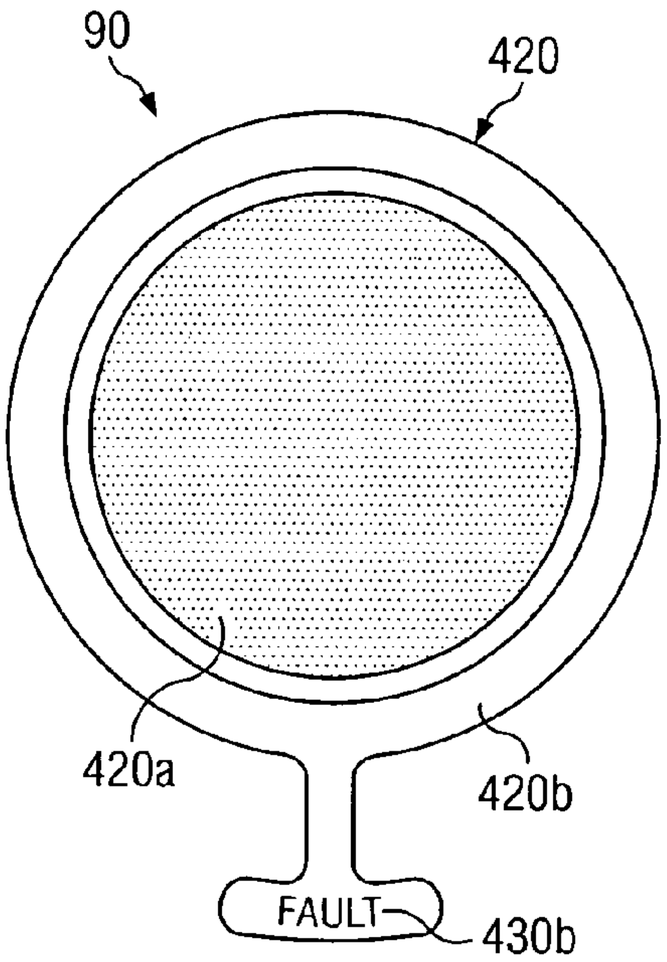


FIG. 5E

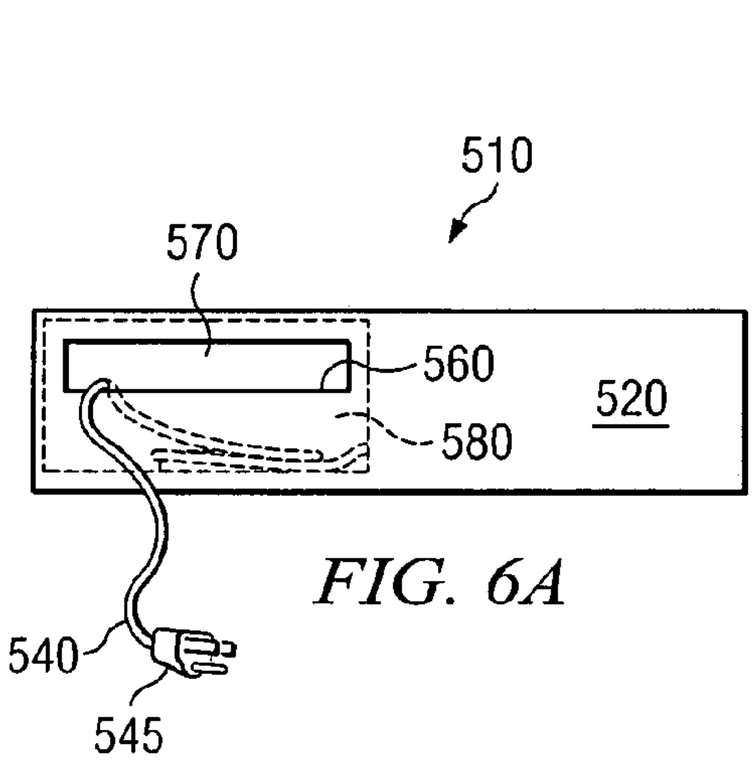


FIG. 6A

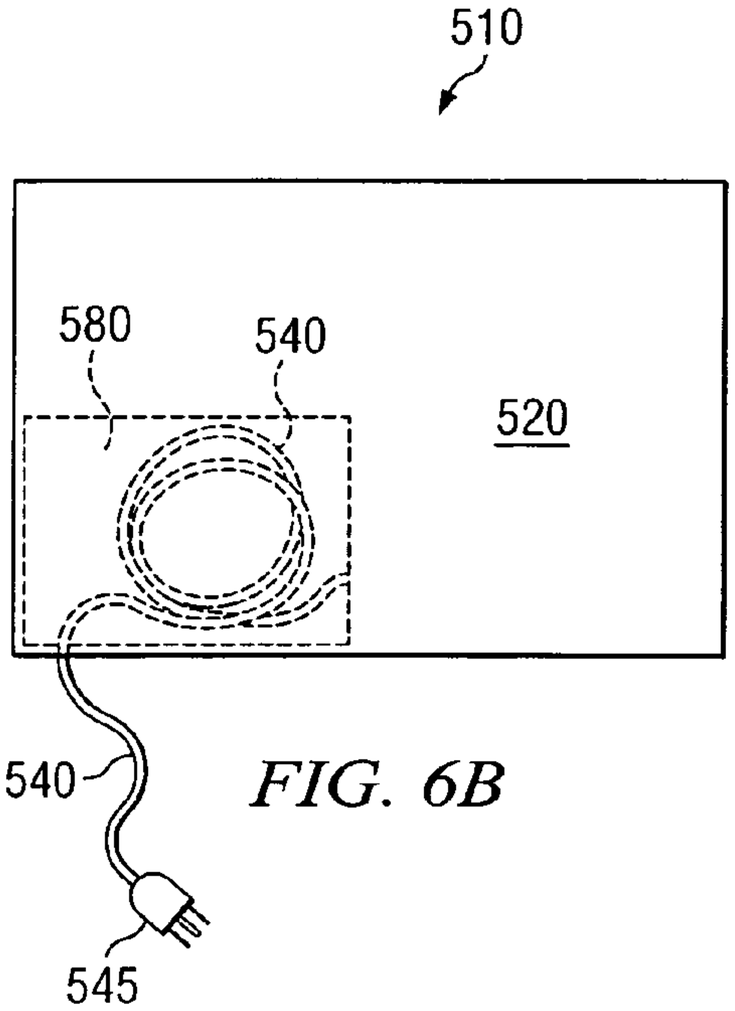


FIG. 6B

CORD MANAGEMENT DEVICE

CROSS REFERENCE TO RELATED APPLICATION

This application is a continuation of pending U.S. patent application Ser. No. 10/937,463, filed Sep. 8, 2004 and entitled "Cord Management Device."

TECHNICAL FIELD OF THE INVENTION

This invention relates in general to consumer electronic devices, and more particularly, to a cord management system for electronic devices.

BACKGROUND OF THE INVENTION

In recent years, rapid growth in the number of electronic devices available in the consumer market, increased automation of the industrial sector, and the emergence of electronic information processing and storage in many areas of the business world has introduced a multitude of new electronic devices to the home and workplace. This in turn has led to a growing reliance on systems that utilize or include multiple electronic components. As the number of components in a given system increases, the power cords and other cords associated with the various components can produce difficulties for a user attempting to locate and free the cord associated with a particular component, cause hazardous home or workplace conditions, and create an eyesore. Thus, a system capable of effectively managing power cords of one or more electronic components could simplify use of the electronic components, reduce safety concerns associated with the power cords, and provide aesthetic benefits.

SUMMARY OF THE INVENTION

In accordance with the present invention, the disadvantages and problems associated with supplying power and various forms of electronic signals to electronic devices have been substantially reduced or eliminated. In particular, a cord management device is provided.

In accordance with one embodiment of the present invention, a device for providing electricity includes a frame, an outlet, a plug, and a cavity cover. The outlet is capable of providing electricity to devices plugged into the outlet. The plug is operable to provide electricity to the outlet from an external power source. The frame forms a cavity that is capable of storing a cord. Additionally, the cavity cover is capable of allowing access to the cavity through a cavity opening when a force is applied to the cavity cover and covering the cavity opening when the force is removed from the cavity cover.

In accordance with another embodiment of the present invention, an apparatus for managing cords includes a cavity, a cavity opening, and a cavity cover. The cavity is capable of storing a cord. The cavity opening provides access to the cavity. The cavity cover is capable of allowing access to the cavity through the cavity opening when a force is applied to the cavity cover and covering the cavity opening when the force is removed from the cavity cover.

Important technical advantages of certain embodiments of the present invention include improving home and workplace safety, providing a surge-protector with improved aesthetic qualities, and offering an effective system for notifying users of the current status of surge-protection

features. Other technical advantages of the present invention will be readily apparent to one skilled in the art from the following figures, descriptions, and claims. Moreover, while specific advantages have been enumerated above, various embodiments may include all, some, or none of the enumerated advantages.

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of the present invention and its advantages, reference is now made to the following description, taken in conjunction with the accompanying drawings, in which:

FIGS. **1A–1B** illustrate a front and side view of a cord management device according to a particular embodiment of the present invention;

FIGS. **2A–2D** illustrate in greater detail the cord management device and cavity covers of the cord management device.

FIGS. **3A–3D** illustrate operation of cavity covers of the cord management device according to particular embodiment;

FIG. **4** illustrates a cutaway view of the cord management device while device cords are stored in the cord management device;

FIGS. **5A–5E** illustrate operation of a status indicator according to a particular embodiment; and

FIGS. **6A–6B** illustrate an alternative embodiment of the cord management device.

DETAILED DESCRIPTION OF THE INVENTION

FIGS. **1A–1B** illustrate, from numerous perspectives, a cord management device **10** according to a particular embodiment. FIGS. **1A** and **1B** provide a front and a side view, respectively, of cord management device **10**. In the illustrated embodiment, cord management device **10** includes frame **20**, base **30**, a plurality of outlets **40**, one or more brick outlets **45**, a plug **50**, one or more cavity openings **60**, one or more cavity covers **70**, safety tabs **75**, a status indicator **90**, and a switch **95**. FIG. **1A** additionally shows electronic devices **110** and external power supply **120**. Cord management device **10** provides electricity from external power supply **120** to electronic devices **110** plugged into outlets **40**. Additionally, cord management device **10** is capable of storing cords associated with electronic devices **110** plugged into outlets **40** within a cavity **80** of cord management device **10**, represented by a dotted-line outline in FIG. **1B**.

Frame **20** holds outlets **40** and other components of cord management device **10**. In particular embodiments of cord management device **10**, frame **20** encloses cavity **80** for storing one or more device cords **112** within frame **20**. Frame **20** may include one or more components and be composed of plastic, rubber, aluminum, or any other suitable material. As illustrated in FIG. **1A**, a portion of frame **20** represents a substantially cylindrical structure with a hollow interior. FIG. **3** illustrates, in greater detail, the inside of frame **20** according to a particular embodiment of cord management device **10**.

Base **30** supports frame **20** and other components of cord management device **10** and, in a particular embodiment, is capable of holding frame **20** in a vertical position. More specifically, base **30** may be capable of supporting frame **20** so that a lengthwise dimension of frame **20** extends in a vertical direction away from base **30**. Base **30** may include

one or more weighted components to provide additional weight to base **30** and, thus, increase the stability of cord management device **10** when cord management device **10** is placed in an upright position.

Outlets **40** and brick outlets **45** provide electricity to electronic devices **110** plugged into outlets **40**. Brick outlets **45** are configured, spaced, and/or sized to accept larger device plugs **114** than outlets **40**. In a particular embodiment, each of outlets **40** and brick outlets **45** may represent a conventional outlet capable of accepting a two-wire or three-wire device plug **114** and providing 120-volt alternating current (AC) electricity to a device coupled to the device plug **114**. Additionally, one or more of outlets **40** and brick outlets **45** may be surge-protected and capable of preventing the peak AC-voltage supplied by those outlets **40** and brick outlets **45** from exceeding a predetermined safe level. The power supplied to outlets **40** and brick outlets **45** may be controlled by switch **95**. More specifically, power may be supplied to outlets **40** and brick outlets **45** when switch **95** is in an "ON" position and power may be withheld when switch **95** is in an "OFF" position. In a particular embodiment, outlets **40** and brick outlets **45** may represent identical components with the only difference being the amount of space allotted to a particular outlet **40** or brick outlet **45**.

Plug **50** allows cord management device **10** to couple to an external power supply, such as a wall outlet, to provide electricity to outlets **40** and brick outlets **45**. Cord management device **10** may include a primary cord **55** that couples plug **50** to outlets **40**, brick outlets **45**, and other components of cord management device **10**, allowing those components to be connected to external power supply **120** which may be physically removed from cord management device **10**. Plug **50** may represent any appropriate component for coupling components of cord management device **10** to external power supply **120**. For example, in a particular embodiment, plug **50** represents a conventional three-pronged plug suitable for plugging into a grounded 120-volt outlet.

Cavity openings **60** represent apertures, slits, holes, or other forms of openings in frame **20** suitable to provide access to cavity **80** within frame **20**. In particular embodiments of cord management device **10**, cavity openings **60** may be shaped, sized, and positioned to allow the device cords **112** plugged into cord management device **10** to be stored within frame **20**. Thus, cavity openings **60** may represent openings of any size or shape and may be placed on frame **20** in any suitable location, based on the configuration and anticipated use of cord management device **10**. Moreover, cord management device **10** may include any appropriate number of cavity openings **60**. In a particular embodiment, cord management device **10** may include a single cavity opening **60** configured to allow excess lengths of a particular device cord **112** to be deposited inside frame **20** with both ends of that device cord **112** extending from cavity **80** through the single cavity opening **60**. An example of such an embodiment is described below with respect to FIGS. **6**A and **6**B.

In an alternative embodiment, cord management device **10** may include multiple cavity openings **60** configured to allow excess lengths of a particular device cord **112** to be deposited within frame **20** with a first end of that component cord extending from cavity **80** through a first cavity opening **60** and a second end of that component cord extending from cavity **80** through a second cavity opening **60**.

In the illustrated embodiment, frame **20** comprises three cavity openings **60**, including two lateral openings **60***a* and a top opening **60***b*. Lateral openings **60***a* represent space between outlets **40** and a portion of frame **20** running along a side face of frame **20**. Top opening **60***b* represents a circular opening in a top surface of the cylindrical frame **20**. As described in greater detail below, top opening **60***b* and lateral openings **60***a* are positioned so that a continuous length of cord may be deposited within the interior of frame **20** with one end extending out of cavity **80** through top opening **60***b* and the other end extending out of cavity **80** through either lateral opening **70***a*.

Cavity covers **70** cover cavity openings **60** and facilitate access to the interior of frame **20**. Each cavity cover **70** covers a portion or all of a particular cavity opening **60**. Cavity covers **70** may represent any suitable element capable of both allowing access to the interior of frame **20** and covering cavity openings **60**. As a result, cavity covers **70** may be capable of bending, sliding, swinging, or otherwise moving, rotating, opening, and/or assuming another position so that a user of cord management device **10** may insert or retrieve device cords **112** from the interior of cord management device **10**. In general, cavity cover **70** may be capable of moving or changing position in any appropriate manner to facilitate access. Furthermore, in a particular embodiment, cavity covers **70** may be configured to automatically return to an original location or position once the device cord has been inserted in or retrieved from the interior of cord management device **10**. For example, in a particular embodiment, cavity covers **70** are composed of an elastomeric material capable of bending when a force is applied to the cavity cover **70** and then returning to an original shape once the force is removed.

In the illustrated embodiment, cavity covers **70** are represented by lateral cover **70***a* and slitted cap **70***b*. Lateral cover **70***a* is attached to frame **20** and runs the length of lateral openings **60***a*. FIGS. **2**C and **2**D shows particular embodiments of slitted cap **70***b* and lateral cover **70***a* removed from cord management device **10**. Slitted cap **70***b* sits on top of top opening **60***b* and allows access to top opening **60***b* through slit **72**. Operation of cavity covers **70**, in such an embodiment, is discussed in greater detail below in connection with FIGS. **3**A–**3**D.

Switch **95** controls a flow of electricity to outlets **40** and brick outlets **45**. When switch **95** is in a first position, electricity flows from external power supply **120** to outlets **40** and brick outlets **45** and to electronic devices **110** plugged into outlets **40** and brick outlets **45**. When switch **95** is in a second position, the flow of electricity to outlets **40** and brick outlets **45** is disrupted and electronic devices **110** do not receive electricity. Switch **95** may represent a conventional electric switch.

Status indicator **90** indicates a current state of cord management device **10**. Status indicator **90** may provide information about any appropriate state of cord management device **10**. For example, in a particular embodiment, of cord management device **10** status indicator **90** provides information about the status of electricity flow to outlets **40** and brick outlets **45**. In such an embodiment, status indicator **90** may indicate, at appropriate times, "PROTECTED", "FAULT", and "OFF" states, as described in greater detail below.

Additionally, status indicator **90** may include any appropriate components to provide information about the relevant state of cord management device **10**. For example, status indicator may include light bulbs, light-emitting diodes (LEDs), a liquid crystal diode (LCD) display, sound generating components, or any other appropriate components for conveying information. In a particular embodiment, status indicator **90** includes one or more lighting elements and descriptive text printed over a background of luminescent

paint. During operation, the lighting elements illuminate particular words or symbols in the text causing that text to glow, which in turn enhances the visibility of the text. The portions of the text that are glowing provide information about the current state of cord management device **10**. Operation of such an embodiment is described in conjunction with FIGS. **5**A–**5**E below.

Nightlight **100** provides a dim, low-range light that illuminates portions of cord management device **10** and/or the area surrounding cord management device **10**. Nightlight **100** may enable a user of cord management device **10** to see outlets **40** and brick outlets **45**, status indicator **90**, switch **95**, or other components of cord management device **10** in an otherwise dark area. In a particular embodiment, nightlight **100** may represent all or certain components of status indicator **90**, switch **95**, or any other suitable component of cord management device **10**. In the illustrated embodiment, nightlight **100** represents luminescent paint and other components of status indicator **90** that provide illumination while cord management device **10** is operating with a particular status.

Safety tabs **75** represent passive elements that cover any or all of plugs **40** and brick plugs **45**. Safety tabs **75** may represent any appropriate components that are capable of covering plugs **40** or brick plugs **45** without the need for human intervention. For example, in a particular embodiment, each safety tab **75** represents an elastomeric tabs that covers a particular outlet **40** when no device plug **114** is plugged into that outlet **40**. In such an embodiment, the user may bend safety tab **75** to allow the user to insert device plug **114** into the associated outlet **40**. When the user subsequently removes device plug **114**, the elastomeric properties of safety tab **75** cause safety tab **75** to bend back to the original position of safety tab **75**, once again covering that outlet **40**. As a result, safety tabs **75** may prevent children, pets, or other individuals from shocking themselves on covered outlets **40** without a conscious effort on the part of the user to keep outlets **40** covered. Thus, safety tabs **75** may provide safety benefits in particular embodiments of cord management device **10**. Although safety tabs **75** are shown, for the purposes of illustration on only select outlets **40**, a particular embodiment of cord management device **10** may include safety tabs **75** covering any, all, or none of outlets **40** and/or brick outlets **45**.

Notches **105** secure device cords **112** and limit the movement of device cords **112** after component cords have been plugged into cord management device **10**. Depending on the configuration of cord management device **10**, notches **105** may represent apertures in frame **20** and/or cavity covers **70**. In a particular embodiment, notches **105** are located on either side of each outlet **40** and allow device cords **112** to be secured to frame **20** or other components of cord management device **10** near the particular outlet **40** into which that device cord **112** is plugged. Placement of notches in this manner may limit the amount of excess device cord **112** extending from cavity **80** and prevent device cords **112** from straying from cord management device **10** or getting tangled with one another. Additionally, notches **105** may allow a particular cavity cover **70** to close completely despite the fact that a device cord **112** may be extending from cavity **80** through the associated cavity opening **60**.

Electronic devices **110** represent any appropriate electronic component, device, or apparatus suitable, based on the configuration and characteristics of cord management device **10**, for receiving electricity from cord management device **10**. Electronic devices **110** couple to cord management device **10** through device cords **112** and device plugs **114**.

In operation, a user plugs device plugs **114** of one or more electronic devices **110** in outlets **40** or brick outlets **45**. More specifically, device plugs **114***a* are plugged into outlets **40** and device plugs **114***b* are plugged into brick outlets **45**. As noted above, brick outlets **45** are sized, spaced, or otherwise configured to accept component plugs with larger casings, such as component plugs containing transformers and, as a result, device plugs **114** plugged into brick outlets **45** are heavier than device plugs **114** plugged into outlets **40**. In particular embodiments, outlets **40** and brick outlets **45** are positioned so that most, or substantially all, of brick outlets **45** are positioned below outlets **40** when cord management device **10** is operating. Thus, as a result of brick outlets **45** being located lower on cord management device **10** than outlets **40**, the center of gravity of cord management device **10** is lower than if brick outlets **45** and outlets **40** were located in arbitrarily selected positions on cord management device **10**. Consequently, such an embodiment of cord management device **10** may provide added stability to prevent cord management device **10** from tipping over.

Once device plugs **114** are plugged into outlets **40** and brick outlets **45**, or at any other appropriate time, the user may deposit device cords **112** within the interior of frame **20** through cavity openings **60**. The interior of frame **20** is described in greater detail in conjunction with FIG. **3**. By providing a storage space for device cords **112**, particular embodiments of cord management device **10** offer organizational, safety, and aesthetic benefits.

Additionally, cavity covers **70** cover cavity openings **60** and hide device cords **112** stored in cavity **80** from view. Thus, cavity covers **70** may provide additional aesthetic benefits for cord management device **10**. Furthermore, cavity covers **70** may improve the effectiveness of cord management device **10** by ensuring device cords **112** do not stray from cavity **80** if electronic devices **110** or cord management device **10** are moved, or device cords **112** are otherwise rearranged.

Once device plugs **114** are plugged into outlets **40** and brick outlets **45**, or at any other appropriate time, the user may control flow of electricity to outlets **40** and brick outlets **45** and, as a result, to electronic devices **110** by toggling switch **95**. Additionally, status indicator **90** provides an indication of the state of cord management device **10**. In a particular embodiment, the state of cord management device **10** that is described by status indicator **90** may relate to the flow of electricity from external power supply **120** to outlets **40** and brick outlets **45**.

For example, electricity may flow to outlets **40** and brick outlets **45** from external power supply **120** when cord management device **10** is in an "PROTECTED" state as discussed above. Conversely, the flow of electricity may be disrupted when cord management device **10** is in an "OFF" state. Additionally, in an embodiment providing surge protection, surge protection components may be destroyed or damaged by a sufficiently large surge in voltage supplied by external power supply **120**. Thus, in particular embodiments, a "FAULT" state may result in cord management device **10** following a large voltage surge. While cord management device **10** is in the "FAULT" state, cord management device **10** may be configured to terminate the flow of electricity to outlets **40** and brick outlets **45** regardless of whether switch **95** is in the "ON" position. In such an embodiment, status indicator **90** may include appropriate components configured to indicate the "PROTECTED",

"OFF", and "FAULT" states to the user. FIGS. **5**A–**5**E illustrate operation of a particular embodiment of status indicator **90** in greater detail.

FIGS. **2**A and **2**B illustrate a top and front view of a particular embodiment of cord management device **10** with lateral cover **70***a* and slitted cap **70***b* removed. FIGS. **2**C and **2**D illustrate a particular embodiment of slitted cap **70***b* and lateral cover **70***a*, respectively, removed from cord management device **10**. As illustrated lateral cover **70***a* and safety tabs **75** represent a single piece of molded elastomeric material. In alternative embodiments, however, lateral cover **70***a* and safety tabs **75** may represent physically discrete components.

FIGS. **3**A–**3**D illustrate a particular embodiment of cord management device **10** as a device cord **112** is stored in cavity **80**. More specifically, FIGS. **3**A–**3**D illustrate an embodiment of cord management device **10** that includes a slitted cap **70***b* and lateral cover **70***a* as cavity covers **70**.

FIG. **3**A illustrates an upper portion of cord management device **10** as a user positions device cord **112** near slitted cap **70***b* and aligns device cord **112** with slit **72**. As shown in FIG. **3**B, the user then applies force **210** to slitted cap **70***b* by pressing device cord **112** into slit **72** or pulling device cord **112** across slit **72**. In response to force **210**, slit **72** opens providing device cord **112** with access to top cavity opening **60**. The user slides device cord **112** through slit **72**. As force **210** is removed, slit **72** closes behind device cord **112**.

FIG. **3**C illustrates cord management device **10** as user aligns device cord **112** with a seam between lateral cover **70***a* and frame **20**. After aligning device cord **112** with the seam, the user applies a force **220** to lateral cover **70***a*, for example, by pressing on device cord **112**. Lateral cover **70***a* bends in response to force **220** providing entry to cavity **80** for device cord **112**. After device cord **112** has been deposited in cavity **80**, lateral cover **70***a* returns to the original position of lateral cover **70***a*.

FIG. **3**D illustrates cord management device **10** after device cord **112** has been deposited and lateral cover **70***a* has returned to the original position of lateral cover **70***a*. While stored in cavity **80**, in the illustrated embodiment, one end of device cord **112** extends from cavity **80** through lateral opening **60***a* while the other end of device cord **112** exits cavity **80** through top opening **60***b*.

Additionally, particular embodiments of cord management device **10** may include a recess **220** between the lip of slitted cap **70***b* and the top edge of frame **20**, as outlined by the dotted line in FIG. **3**B that provides additional benefits by allowing the user to insert device cord **112** into cavity **80** without removing slitted cap **70***b*. More specifically, in such an embodiment, the user can plug a particular device cord **112** into an outlet **40**. Then, while that device cord **112** is plugged into outlet **40**, the user can deposit device cord **112** into cavity **80** by pressing device cord **112** through slit **72** and then through lateral cover **70***a*, all without removing slitted cap **70***b*. Thus, particular embodiments of cord management device **10** may provide significant ease-of-use benefits.

FIG. **4** represents a partial cutaway view of cord management device **10**. The portion of cord management device **10** located above cutaway line **310** is shown as a cross-sectional view of the interior of cord management device **10**, while the portion below cutaway line **310** is shown as a front view of the exterior of cord management device **10**. FIG. **4** illustrates cord management device **10** during operation. Device plugs **114** are plugged into outlets **40** and brick outlets **45**, and device cords **112** have been inserted into cavity **80** and threaded through notches **105**. Although device cords **112** in FIG. **4** are shown as threaded through notches **105**, in a particular embodiment of cord management device **10**, device cords **112** may instead rest between frame **20** and cavity cover **70** after being inserted in cavity **80**, keeping a portion of cavity cover **70** displaced from its original position. As another alternative, cavity cover **70** may be shaped to allow cavity cover **70** to return to its original position even while device cord is extending from cavity **80**. For example, a portion of cavity cover **70** may include a hole sized and/or shaped to fit device cord **112**, allowing cavity cover **70** to return to its original position when device cord **112** is aligned with the hole.

In the illustrated embodiment, frame **20** possess a substantially cylindrical shape. The cylindrical shape limits the number of corners frame **20** possesses. Because corners can trap cords inserted into cavity **80** and inhibit the free movement of cords within cavity **80**, corners may prevent device cords **112** from repositioning as new device cords **112** are added to cavity, resulting in optimal use of the storage space provided by cavity **80**. Thus, the substantially cylindrical shape of frame **20** provides benefits in optimizing use of the storage space offered by cord management device **10**.

Additionally, the shape of frame **20**, top opening **60***b*, slitted cap **70***b*, and/or other components of cord management device **10** may cause device cords **112** to bunch during or after being deposited in cavity **80**. This bunching may result in twisting or braiding of device cords **112**, as shown in FIG. **4**. This braiding may prevent individual device cords **112** from straying from the collection of other device cords **112** and, as a result, provide additional organizational benefits.

FIGS. **5**A–**5**E illustrate operation of a particular embodiment of status indicator **90** in greater detail. As indicated above, status indicator **90** displays information about electricity flow to outlets **40** and brick outlets **45**. FIG. **5**A illustrates the location of status indicator **90** on a particular embodiment of cord management device **10**. Although FIG. **5**A illustrates a status indicator **4**A positioned in a particular location on cord management device **10**, status indicator **90** may be located in any appropriate position on cord management device **10**. Additionally, although the description below focuses on a particular embodiment of status indicator **90** that detects "OFF", "PROTECTED", and "FAULT" statuses of cord management device **10**, cord management device **10** may include a status indicator **90** configured to detect any appropriate status or statuses of cord management device **10**, based on any appropriate characteristic, property, or attribute of cord management device **10**, electronic devices coupled to cord management device **10**, external power supply **120**, or any other component associated with cord management device **10**.

FIGS. **5**A and **5**B illustrate a particular embodiment of status indicator **90** that includes a status detector **410**, a painted surface **420**, and one or more textual indicators **430**. Status detector **410** detects a status or a change in status of cord management device **10** and controls painted surface **420** and other appropriate components to convey information pertaining to the status to users. FIG. **5**A shows a side view of cord management device **10**, while FIG. **5**B shows a top-down view of a surface of cord management device **10** that includes painted surface **420** and textual indicators **430**.

Status detector **410** detects a status of cord management device **10** and controls other components of status indicator **90** to convey this status to users. For purposes of this description, detecting a "status" of cord management device **10** may include detecting a status, detecting a change in the

status, or detecting other characteristics, properties, or attributes of cord management device **10** or other devices associated with cord management device **10** to determine the status. As noted above, although FIGS. **5**A–**5**E illustrate operation of a particular embodiment of status detector **410** configured to detect a particular status of cord management device **10**, particular embodiments of cord management device **10** may include a status detector **410** configured to detect any suitable status.

In the illustrated embodiment, status detector **410** is capable of detecting whether cord management device **10** is currently supplying electricity to outlets **40** and brick outlets **45** and whether an electric surge has caused cord management device **10** to terminate the flow of electricity to outlets **40** and brick outlets **45**. In particular, status detector **410** detects an "OFF" state when switch **95** is in an "OFF" position or cord management device **10** is disconnected form external power supply **120**. Status detector **410** detects a "PROTECTED" state when switch **95** is in an "ON" position and electricity is flowing to outlets **40** and brick outlets **45**. Additionally, status detector **410** detects a "FAULT" state when switch **95** is in an "ON" position but cord management device **10** has terminated the flow of electricity to outlets **40** or brick outlets **45** as a result of an electric surge or other appropriate event.

Painted surface **420** represents an appropriately positioned surface of cord management device **10** to which luminescent paint or another suitable covering has been applied that is capable of producing light in response to an electric current applied to the covering. Painted surface **420** may receive electric current from status detector **410** or other appropriate components of cord management device **10** in response to status detector **410** detecting a change in the status of cord management device **10**.

In the illustrated embodiment, painted surface includes a first portion **420***a* and a second portion **420***b*. First portion **420***a* and second portion **420***b* may include luminescent paint that produce light of different colors. As a result, cord management device **10** may be capable of indicating the status of cord management device **10** by generating light of a particular color. For example, in a particular embodiment, the luminescent paint of first portion **420***a* may generate indigo light when electric current is applied to first portion **420***a*. Similarly, the luminescent paint of second portion **420***b* may generate red light when electric current is applied to second portion **420***b*. Status indicator **90** may be configured to apply an electric current to the first portion **420***a*, and thus generate an indigo light, when cord management device **10** is in the "PROTECTED" state. Status indicator **90** may be configured to apply an electric current to the second position **420***b*, and thus generate a red light, when cord management device **10** is in the "FAULT" state.

Textual indicators **430** represent text located on cord management device **10** that may be illuminated by the luminescent paint of painted surface **410**. The text may include letters, symbols, numbers, or text in any other suitable form to convey the relevant state of cord management device **10**. In particular embodiments of cord management device **10**, status indicator **90** may indicate the status of cord management device **10** by illuminating or terminating illumination of one or more of textual indicators **430**. For example, in the illustrated embodiment, cord management device **10** illuminates textual indicator **430***a*, which includes the text "PROTECTED", to indicate the "PROTECTED" status of cord management device **10** and illuminates textual indicator **430***b*, which includes the text "FAULT", to indicate a "FAULT" status of cord management device **10**. In a particular embodiment, textual indicators **430** may comprise luminescent paint and may represent some or all of painted surface **410**. Additionally, textual indicators **430** may be positioned on top of painted surface **410** so that painted surface **410** creates an illuminated background for textual indicators **430** when activated, making textual indicators easier to read or distinguish. Alternatively, textual indicators **430** may be positioned near and/or adjacent to painted surface **410** so that light generated by painted surface **410** illuminates textual indicators **430** indirectly.

In operation in the illustrated embodiment, status detector **410** detects a status of cord management device **10**, as described above. Status detector **410** conveys the detected status by applying an electric current to or removing an electric current to first portion **320***a* and/or second portion **320***b* to illuminate a particular portion of the luminescent paint in painted surface **320**. Furthermore, based on the position of textual indicators **330**, the light generated by first portion **320***a* or second portion **320***b* will illuminate the particular textual indicator **320** associated with the same state as that portion of painted surface **320**.

FIG. **5**C illustrates, in particular, operation of status indicator **90** while cord management device **10** is in an "OFF" state. In the illustrated embodiment, status detector **410** detects the "OFF" status of cord management device **10**. As a result, status detector **410** does not apply an electric current to either first portion **320***a* or second portion **320***b* or, if already applying the current to first portion **320***a* or second portion **320***b*, status detector **410** terminates the application of current to the relevant portion. As a result, neither first portion **320***a* nor second portion **320***b* generates light when the illustrated embodiment of cord management device **10** is in the "OFF" state. This is represented in FIG. **5**B by the shaded first portion **320***a* and second portion **320***b*.

FIG. **5**D illustrates operation of status indicator **90**, according to a particular embodiment, while cord management device **10** is in a "PROTECTED" state. In the illustrated embodiment, status detector **410** detects the "PROTECTED" status of cord management device **10** and, as a result, applies an electric current to first portion **320***a*. In response to the electric current, the luminescent paint in first portion **320***a* generates indigo light. Furthermore, the light generated by first portion **320***a* illuminates textual indicator **320***a* which bears the word "ON." If status detector **410** is already applying a current to second portion **320***b*, status detector **410** may terminate application of the current to second portion **320***b*. This is shown in FIG. **5**C by the unshaded first portion **320***a* and the shaded second portion **320***b*.

FIG. **5**E illustrates operation of status indicator **90**, according to a particular embodiment, while cord management device **10** is in a "FAULT" state. In the illustrated embodiment, status detector **410** detects the "FAULT" status of cord management device **10** and, as a result, applies an electric current to second portion **320***b*. In response to the electric current, the luminescent paint in second portion **320***b* generates red light. Furthermore, the light generated by second portion **320***b* illuminates textual indicator **320***b*, which bears the word "FAULT." If status detector **410** is already applying a current to first portion **320***a*, status detector **410** may terminate application of the current to first portion **320***a*. This is shown in FIG. **5**C by the shaded first portion **320***a* and the unshaded second portion **320***b*.

As a result, status indicator **90** offers an improved technique for conveying information regarding a particular status of cord management device **10**. By providing clear visual indications of the current state, particular embodiments of

cord management device **10** may provide improved ease-of-use. Additionally, particular embodiments may provide increased security against unexpected damage from electrical surges.

FIGS. **6**A and **6**B represent a front and top view, respectively, of an alternative embodiment of the cord management device, cord management device **510**. In this alternative embodiment, cord management device **10** may represent any device, component, or, apparatus that utilizes electricity or receives signals provided by an external source. In this embodiment, frame **520** represents a housing of the electronic device that encloses a cavity **580**. Cord management device **510** additionally includes a cavity opening **560** and a cavity cover **570** similar to those described above.

Cavity **580** of frame **420** is capable of storing a cord **540** of cord management device **510**. One end of cord **540** may couple to cord management device **10** within the interior of frame **20**, as shown in FIG. **6**B. The other end of cord **540** may terminate in a plug **545** capable of connecting to an external power supply and providing electricity from the external power supply to cord management device **510**. For example, cord management device **510** may represent a video cassette recorder (VCR) and cord **540** may represent the power cord of that VCR. Cord **540** may couple to the VCR through a surface of cavity **580** as shown in FIG. **6**B and supply VCR with electricity. Excess lengths of cord **540** may be stored in cavity **580**.

As a result, under this alternative embodiment, a device may serve as its own cord management device. Therefore, both electronic devices **110** and cord management device **510** shown in FIG. **1** may, in fact, represent cord management devices similar to cord management devices **510**. More specifically, one or more electronic devices **110** of FIG. **1** may store portions of device cords **112** within a cavity **580** of that electronic device **110**, and cord management device **10** may store portions of primary cord **55** in cavity **80**.

Although the present invention has been described with several embodiments, a myriad of changes, variations, alterations, transformations, and modifications may be suggested to one skilled in the art, and it is intended that the present invention encompass such changes, variations, alterations, transformations, and modifications as fall within the scope of the appended claims. As one example, although the above description focuses, for purposes of illustration, on an embodiment of cord management device **10** that serves as a power strip for electronic devices **110**, cord management device **10** may additionally, or alternatively, provide data or other signals to electronic devices **110**. For example, instead of representing a power strip, cord management device **10** may represent an Ethernet hub configured to allow the user to store Ethernet cables within cavity **80**. In such an embodiment, device cords **112** may represent Ethernet cables, while device plugs **114**, may represent plugs appropriate for connecting such Ethernet cables to a data port.

What is claimed is:

1. A device for providing electricity comprising:

a substantially cylindrical frame;

an outlet operable to provide electricity to electric devices plugged into the outlet;

a plug operable to provide electric power to the outlet from an external power source;

a cavity formed within the frame and operable to store a cord;

a slitted cap, wherein at least a portion of the slitted cap is operable to:

allow access to the cavity through a top opening in the substantially cylindrical frame when a force is applied to the slitted cap; and

cover the top opening when the force is removed from the slitted cap.

2. The device of claim **1**, wherein the slitted cap comprises an elastomeric substance, and wherein at least a portion of the slitted cap is further operable to allow access by bending when the force is applied to the cavity cover, and wherein at least a portion of the slitted cap is further operable to cover the cavity by returning to an original shape when the force is removed from the cavity cover.

3. The device of claim **1**, wherein at least a portion of the slitted cap is operable to allow access to the cavity by allowing a cord to be pressed into the cavity.

4. The device of claim **1**, wherein

the cavity forms a substantially cylindrical portion of an interior of the frame.

5. The device of claim **1**, further comprising:

a lateral cover, wherein the lateral cover is operable to:

allow access to the cavity through a lateral opening when a force is applied to the lateral cover; and

cover the lateral opening when the force is removed from the lateral cover.

6. The device of claim **5**, wherein the lateral opening is operable to receive a first end of a cord that is plugged into the outlet and the top opening is operable to accept a second end of the cord without the slitted cap being removed or the plug being unplugged from the outlet.

7. The device of claim **6**, wherein the top opening is further operable to accept the second end receiving the second end through a slit of the slitted cap.

8. The device of claim **1**, further comprising a plurality of outlets, each of the outlets operable to provide electricity to electronic devices plugged into the outlet.

9. The device of claim **8**, wherein the plurality of outlets comprise a plurality of outlets and a brick outlet, and wherein the brick outlet is placed below substantially all of the outlets on the device when the device is in an operational position.

10. The device of claim **1**, further comprising a nightlight.

11. The device of claim **1**, wherein the outlet is surge-protected.

12. The device of claim **11**, further comprising a status indicator operable to:

indicate a first state when the outlet is not powered by the external power source; and

indicate a second state when the outlet is powered.

13. The device of claim **12**, wherein the status indicator is further operable to indicate a third state when the outlet is not surge-protected.

14. The device of claim **12**, wherein the status indicator comprises a night light.

15. The device of claim **12**, wherein the status indicator comprises luminescent paint and the status indicator is operable to indicate the second state by illuminating the luminescent paint.

16. The device of claim **15**, wherein the luminescent paint forms text indicating that the device is powered.

17. The device of claim **1**, further comprising a cord coupling the plug to the device and wherein at least a portion of the cord is operable to be stored in the cavity.

18. The device of claim **1**, further comprising a base operable to support the frame so that a lengthwise dimension of the frame extends vertically.

19. The device of claim **1**, further comprising a safety tab operable to automatically cover the outlet when a plug is removed from the outlet.

20. The device of claim **1**, further comprising a safety tab operable to:

allow access to the outlet when a force is applied to the safety tab; and

cover the outlet when the force is removed from the safety tab if no plug is plugged into the outlet.

21. The device of claim **20**, wherein:

the safety tab comprises an elastomeric substance;

the safety tab is further operable to allow access to the outlet by bending when the force is applied and wherein the safety tab is further operable to cover the outlet by returning to an original shape when the force is removed from the safety tab.

22. The device of claim **1**, further comprising a lateral opening, wherein the lateral opening includes a notch in the frame, wherein the notch is operable to secure a cord to the frame while the cord extends through the lateral opening.

23. The device of claim **22**, wherein the lateral cover is further operable to return to an original shape while the cord is secured by the notch.

24. The device of claim **1**, wherein the device further comprises a plurality of outlets, each outlet associated with one or more of a plurality of notches, wherein each notch is positioned substantially near the outlet associated with that notch and is operable to secure a cord to the frame while the cord extends from the cavity to the outlet associated with that notch.

25. A device for providing electricity comprising:

a frame;

a surge-protected outlet operable to provide electricity to electric devices plugged into the surge-protected outlet;

a plug operable to provide electric power to the surge-protected outlet from an external power source;

a cavity formed within the frame and operable to store a cord;

a cavity cover, wherein the cavity cover is operable to:

allow access to the cavity through a cavity opening when a force is applied to the cavity cover; and

cover a portion of the cavity opening when the force is removed from the cavity cover; and

a status indicator comprising luminescent paint that indicates whether the device is powered, wherein the status indicator is operable to:

indicate a first state when the outlet is not powered by the external power source; and

indicate a second state when the outlet is powered;

and wherein the status indicator is operable to indicate at least one of the first state and the second state by illuminating the luminescent paint.

26. The device of claim **25**, wherein the cavity cover comprises an elastomeric substance, and wherein the cavity cover is further operable to allow access by bending when the force is applied to the cavity cover, and wherein the cavity cover is further operable to cover the cavity by returning to an original shape when the force is removed from the cavity cover.

27. The device of claim **25**, wherein the cavity cover is operable to allow access to the cavity by allowing a cord to be pressed into the cavity.

28. The device of claim **25**, wherein:

the frame comprises a substantially cylindrical frame; and

the cavity forms a substantially cylindrical portion of an interior of the frame.

29. The device of claim **25**, further comprising a plurality of outlets, each of the outlets operable to provide electricity to electronic devices plugged into the outlet.

30. The device of claim **29**, wherein the plurality of outlets comprise a plurality of outlets and a brick outlet, and wherein the brick outlet is placed below substantially all of the plurality of outlets on the device when the device is in an operational position.

31. The device of claim **25**, further comprising a night-light.

32. The device of claim **25**, wherein the night light comprises at least a portion of the status indicator.

33. The device of claim **25**, wherein the status indicator is further operable to indicate a third state when the outlet is not surge-protected.

34. The device of claim **25**, further comprising a primary cord coupling the plug to the device, wherein at least a portion of the primary cord is operable to be stored in the cavity.

35. The device of claim **25**, further comprising a base operable to support the frame so that a lengthwise dimension of the frame extends vertically.

36. The device of claim **25**, further comprising a safety tab operable to automatically cover the outlet when a plug is removed from the outlet.

37. The device of claim **25**, further comprising a safety tab operable to:

allow access to the outlet when a force is applied to the safety tab; and

cover the outlet when the force is removed from the safety tab if no plug is plugged into the outlet.

38. The device of claim **37**, wherein:

the safety tab comprises an elastomeric substance;

the safety tab is further operable to allow access to the outlet by bending when the force is applied and wherein the safety tab is further operable to cover the outlet by returning to an original shape when the force is removed from the safety tab.

39. The device of claim **25**, wherein the cavity opening further comprises a notch in the frame, wherein the notch is operable to secure a cord to the frame while the cord extends through the cavity opening.

40. The device of claim **39**, wherein the cavity cover is further operable to return to an original shape while the cord is secured by the notch.

41. The device of claim **25**, wherein the device further comprises a plurality of outlets, each outlet associated with one or more of a plurality of notches, wherein each notch is positioned substantially near the outlet associated with that notch and is operable to secure a cord to the frame while the cord extends between the cavity and the outlet associated with that notch.

* * * * *